

STATE OF ALASKA

William A. Egan, Governor

Alaska Department of Fish and Game

C. L. Anderson, Commissioner

Sport Fish Division

E. S. Marvich, Director

ANNUAL REPORT OF PROGRESS, 1960-1961

FEDERAL AID IN FISH RESTORATION PROJECT F-5-R-2

SPORT FISH INVESTIGATIONS OF ALASKA

Alex H. McRea, Coordinator, Juneau  
Robert T. Baade, Fishery Biologist, Ketchikan  
Gary L. Finger, Fishery Biologist, Juneau  
Jean R. Dunn, Fishery Biologist, Seward  
Edward J. Cramer, Fishery Biologist, Anchorage  
Rupert E. Andrews, Fishery Biologist, Palmer  
George L. Van Wyhe, Fishery Biologist, Glennallen  
Roger J. Reed, Fishery Biologist, Fairbanks

## Introduction

This report of progress consists of the Job Completion Reports from the State of Alaska's Federal Aid in Fish Restoration Project F-5-R-2, "Sport Fish Investigations of Alaska".

The current Project is composed of eighteen separate studies and were designed to evaluate the various aspects of the State's recreational fisheries resources. The information gathered will provide the necessary background data for the development of future programs. During the current segment continued emphasis was placed on overall inventorying of accessible waters and the evaluation of general catch data.

Several problems of immediate concern appeared sufficiently defined to warrant independent studies. As a result, two independent creel censuses, one experimental silver salmon egg take and a Resurrection Bay area silver salmon population study were instigated. Data accumulated from prior jobs dealing with the Arctic grayling has resulted in the formulation of three separate investigations during the current segment.

The rapid expansion of Alaska's population is being reflected in the ever increasing numbers of "No Trespassing" signs encountered in the vicinity of population centers. Fortunately, much of Alaska's fishing waters are still in the public domain. An aggressive program of acquiring access to fishing waters, instigated in 1959, was continued during the present segment. Increased emphasis is being placed on this job and the successful continuation of this activity, now and in the immediate future, will forestall many of the serious recreational use problems currently facing other states.

The enclosed progress reports are fragmentary in many respects and the interpretations contained therein are subject to re-evaluation as the work progresses.

ANNUAL REPORT OF PROGRESS  
INVESTIGATIONS PROJECTS  
COMPLETION OF 1960 - 1961 SEGMENT

State: ALASKA

Project No: F-5-R-2

Name: Sport Fish Investigations  
of Alaska

Job No: 2-C

Title: Creel Census and Population  
Sampling of the Sport Fishes  
in the Cook Inlet and Bristol  
Bay Drainages

Sub-Job No: (a)

Subtitle: Lake Louise Creel Census

Period Covered: June 9, 1960 to September 16, 1960.

Objectives:

To measure the sport fish population trends and fishing success on Lake Louise.

To evaluate the effect of management procedures currently applied.

To provide recommendations for the management of Lake Louise.

Abstract:

A creel census study was conducted on Lake Louise through the cooperative assistance of the U. S. Army and U. S. Air Force in a continuation of a study conducted in previous years by the Bureau of Sport Fisheries and Wildlife.

Activities were primarily directed toward determining the total number of fish taken, size class frequencies entering the catch and catch per unit of effort.

In the 1960 summer season, 646 persons completed census forms for a total of 2,652.5 hours of effort to take 646 lake trout, 39 grayling and 16 whitefish. A comparison with other years showed no trend in catch per unit of effort and there was no significant difference in the frequency of size classes. The fishing year appeared normally successful.

An earlier opening date is recommended to provide a better harvest of grayling.

#### Introduction:

Lake Louise is a large body of water of approximately 23,600 surface acres and is located in the extreme headwaters of the Susitna River drainage. (Figure 1). The primary sport fishery consists of lake trout and grayling. Two species of whitefish (Coregonus and Prosopium) and burbot also inhabit the lake. The whitefish are of limited importance in the sport fishery and are taken only incidentally to the lake trout and grayling. The burbot are strictly a winter sport fish.

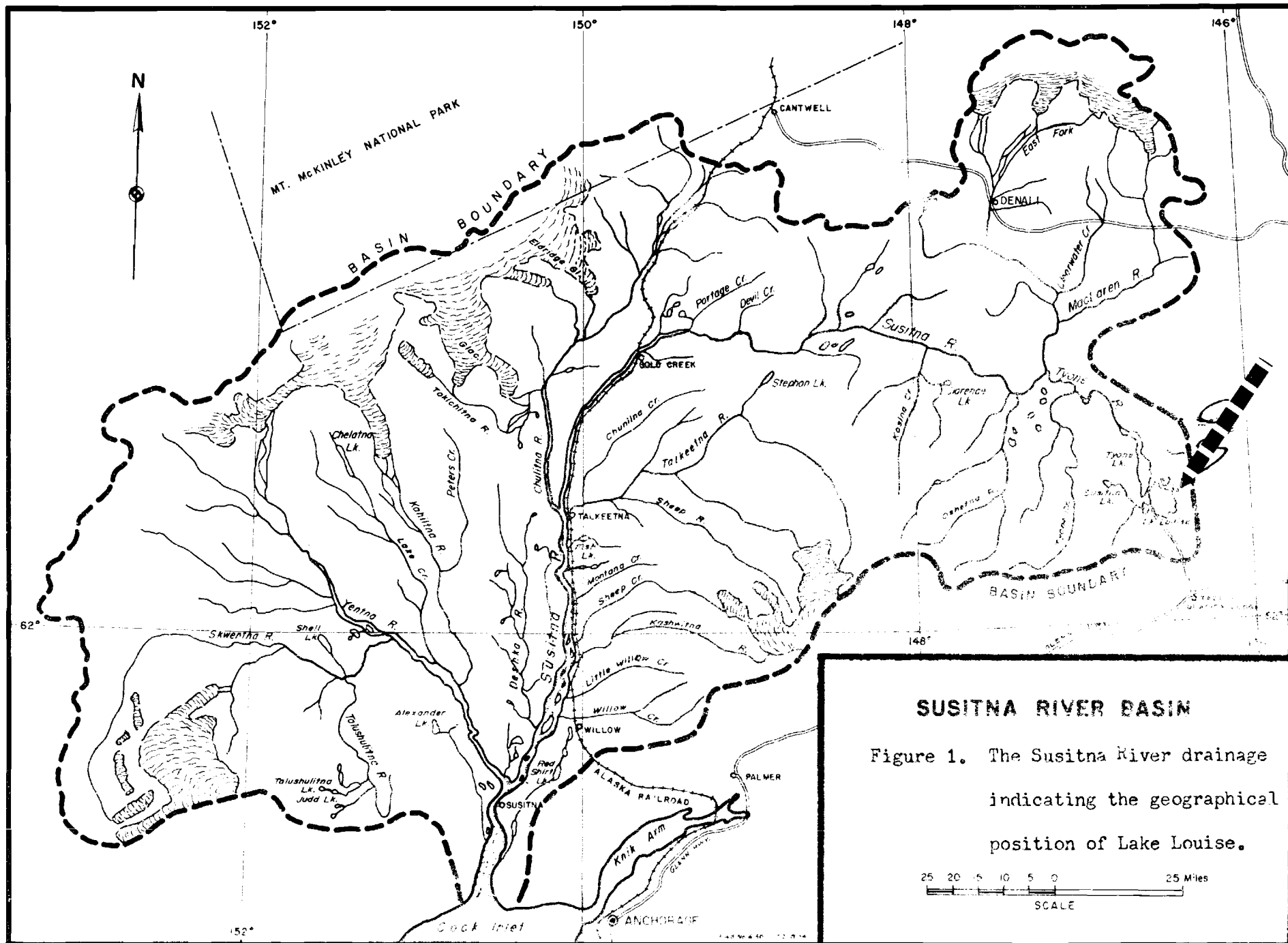
In 1954, the military constructed an unimproved road 24 miles from the Glenn Highway to the lake. Both the Army and the Air Force have recreation camps located on the lake. Limited commercial facilities are now available and the number of private summer cabins is increasing rapidly.

During the summer of 1960, a creel census study was conducted on the sport fishery of Lake Louise through the aid of the U. S. Army and U. S. Air Force.

The immediate objectives were to supplement findings of the preceding years by the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service (Federal Aid in Fish Restoration, Quarterly Progress Report, Vol. 6, No. 4). Primarily, activities were directed towards determining the number of game fish taken, size class frequencies entering the catch and the catch per unit of effort.

#### Techniques:

The Army and Air Force have collected creel census data from their personnel at their recreational camps in past years



under the direction of the Bureau of Sport Fisheries and Wildlife. This year the two camps were requested to obtain comparable information for the Alaska Department of Fish and Game to provide data for the continuing evaluation of the sport fish population trends. The military used the same procedure as in previous years.

Creel census questionnaire forms were provided at each camp and the military personnel fishing the lake were instructed to complete the forms after each fishing trip. The completed forms were then turned over to the Department of Fish and Game for compilation and evaluation. The staff of each camp supervised the collection of data, and completion of the form was mandatory for each fisherman.

#### Findings:

In the 1960 fishing season, from June 9 to September 16, 646 persons completed census forms for a total of 2,652.5 angling hours to take 646 lake trout, 39 grayling and 16 whitefish; an overall catch per unit of effort of .288 fish per hour.

Comparing the results of the 1960 census returns with the 1956 Air Force census, it was found that an almost identical number of fishermen in 1960 fished some 1,200 hours less for an overall success of 66.6% of all participating anglers. The catch per unit of effort in 1960 was higher with an overall rate of .288 fish per hour compared to .119 in 1956. No substantial trend of any kind is seen to exist this year as compared with previous years; .119 lake trout caught per hour in 1956, .331 in 1955 and .273 in 1959.

A comparison was made of the size class frequencies of lake trout entering the sport fish catch. There was no significant difference found in the frequency of size classes.

The 1960 creel census findings for military personnel fishing on Lake Louise are presented in Tables 1 and 2. The findings from the military creel census can be summarized as follows:

Table 1. Creel Census, Lake Louise, 1960.  
Military R&R Camps.

Fishing Period	5-28 6-10	6-11 6-24	6-25 7- 8	7- 9 7-22	7-23 8- 5	8- 6 8-19	8-20 9- 2	9- 3 9-16	Total Fish	Total Pounds
Men	49	228	190	100	94	37	17	3		718
M. H.	165.7	802.3	661.4	345.5	290.5	112.2	40.1	9.0		2,426.7
% F.M. Succ	61.2	84.2	66.3	36.0	18.1	37.8	47.0	66.6		
Number:										
Whitefish	2	9	2	1	0	1	1	0	16	22.5
Grayling	6	30	1	1	0	0	1	0	39	55.2
Lake Trout	59	314	187	41	19	14	10	2	646	2,652.5
Total: f/hr.	67 .404	353 .439	190 .287	43 .124	19 .065	15 .134	12 .299	2 .222	701 .288	2,730.2
Species:	GR	LT	WF							
Mean Length (Inches)	12.2	20.9	14.3							
Mean Weight (Pounds)	1.15	4.1	1.4							

Table 2. Size of Fish Taken by Fishing Periods, Lake Louise, (Lake Trout) Army and Air Force Camps.

Size in Inches	5-28 6-10	6-11 6-24	6-25 7- 8	7- 9 7-22	7-23 8- 5	8- 6 8-19	8-20 9- 2	9- 3 9-16	Totals
9		1					1		2
10		1					1		2
11									
12		2	1	2			1		6
13		8		1					9
14	4	11	2	1			1		19
15	3	13	12			4			32
16	7	20	5	2	1				35
17	2	21	15	2		1			41
18	8	26	15	2	1	1	1	1	55
19	7	49	19	2	3	2	1		83
20	11	35	14	7	2	3			72
21	3	28	15	1			1		48
22	3	22	12		3				40
23	3	19	15	3	2		2		44
24	5	23	7						35
25	1	11	11	2		1	1	1	28
26		4	8	3					15
27		9	5	5		1			20
28		1	5						6
29		1	6	2	1				10
30	1	1	4	3	3	1			13
31		2	4	1	1				8
32		2	6		1				9
33			4		1				5
34		2		1					3
35			1						1
36	1	1		1					3
37			1						1
38									
39		1							1
TOTALS									<u>646</u>



1. No significant trends or changes in the sport fishery on lake trout is apparent from the data.
2. It can be assumed that a normally successful fishing year was experienced by persons fishing Lake Louise in 1960.

Recommendations:

1. It is recommended that the following regulation change be incorporated for Section 204.02 (Seasons in Fresh Water) of the Sport Fish Regulations to read as follows:

204.02 Seasons in Fresh Water

Area	Open Season
Kenai Peninsula and all drainages of Cook Inlet to Cape Douglas (except Tustumena Lake)	January 1 - March 31 May 28 - December 31 Except as provided in Part 207 Special Exceptions:

This regulation change is recommended so that a better harvest of grayling can be realized in the Upper Susitna drainage. Anglers are not able to do this under the June 9 opening. The May 28 opening will be in conformity with the rest of the Cook Inlet drainages.

2. It is recommended that the military be requested to continue the collection of creel census data in succeeding years and thus continue the evaluation of population trends and fishing success in this important sport fishery.

Submitted by:

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Rupert Andrews  
Fishery Biologist  
15 May 1961

Approved by:

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Alex H. McRea  
D-J Coordinator

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E. S. Marvich, Chief  
Sport Fish Division